

- Bonsall #3

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**From:** Bonsall Mark B  
**Sent:** Wednesday, June 03, 2015 7:45 AM  
**To:** SolarCityLegalHold - Dept ID  
**Subject:** FW: 2 of 2 E-17/Price Process Presentations  
**Attachments:** 2015.04 2014\_2015 Overview of the Price Process.pptx

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**From:** Sheatz April L  
**Sent:** Wednesday, June 3, 2015 7:44:35 AM (UTC-07:00) Arizona  
**To:** Bonsall Mark B  
**Cc:** O'Connor Michael J; Blakely Gerraine J  
**Subject:** 2 of 2 E-17/Price Process Presentations

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## **2014/2015 Price Process Overview**

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**Note:**

- 1) We're going to present information on SRP's 2014-2015 Price Process. We cannot discuss the Solar City Litigation.
- 2) We cannot discuss the nature of the claims/defenses outside the context of our legal filings and official press releases;
- 3) SRP is taking the litigation seriously and fully intend to vigorously defend the position and the process.

## **Extensive Public Process**

- 3,600 customer comments received by the Board of Director's Office
- 340 attendees at two Public Comment Sessions, 90 speakers
- 400 management responses to email questions
- 175+ formal Data Request questions
- 3 Management/Board Consultant interviews
- 3 Board meetings w/900 attendees & 150 speakers

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Pursuant to our state statute, we are required to have a public process. We went through an extensive process that began at the beginning of December and concluded at the end of February. The Price Process was very thorough, with a lot of public involvement.

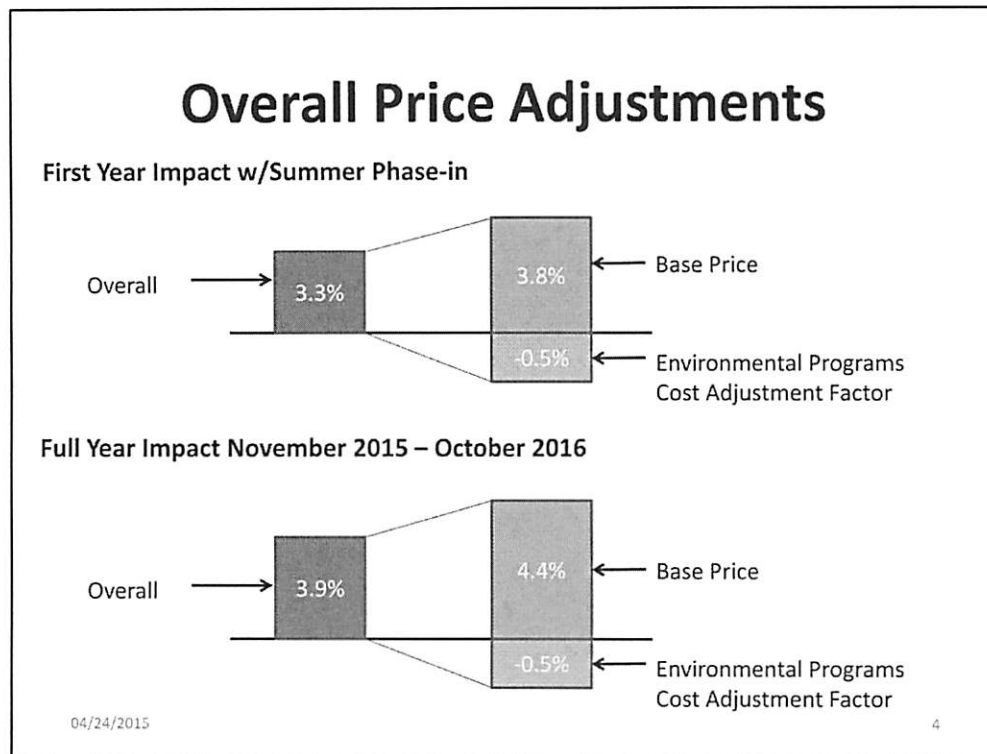
## SRP's Pricing Principles

- **Cost Relation** – Prices need to reflect cost of service
- **Equity** – Treat all customers in an economically fair manner
- **Sufficiency** – Prices need to maintain enterprise financial health
- **Gradualism** – Stabilize price levels, smoothing the impact of cost movements
- **Customer Choice** – Promote pricing options that help customers manage their bills (e.g., TOU)

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1. In January 2000, SRP's Board formally adopted these Pricing Principles.
  1. Cost Relation
  2. Equity
  3. Sufficiency
  4. Gradualism
  5. Customer Choice
2. These have been used in the development of price plans in management's pricing proposal.
3. In particular, this process focuses on the first three – Cost Relation, Equity and Sufficiency – but does not forget about smoothing the impact and offering options to our customers.



Proposal was 3.9% overall, revised to be 3.3% in the first year to phase in the increase.

#### Base increase changes

- \$1.50 phase-in to \$3.00 residential MSC charge for summer 2015 and summer peak 2015 billing cycles
- Commensurate phase-in to the demand charge increase on non-residential rates

## Why an Increase was Needed

- The new prices will pay for several increasing costs:
  - Maintaining reliable service
  - Making investments to support forecast growth
  - Completing required environmental upgrades at power plants

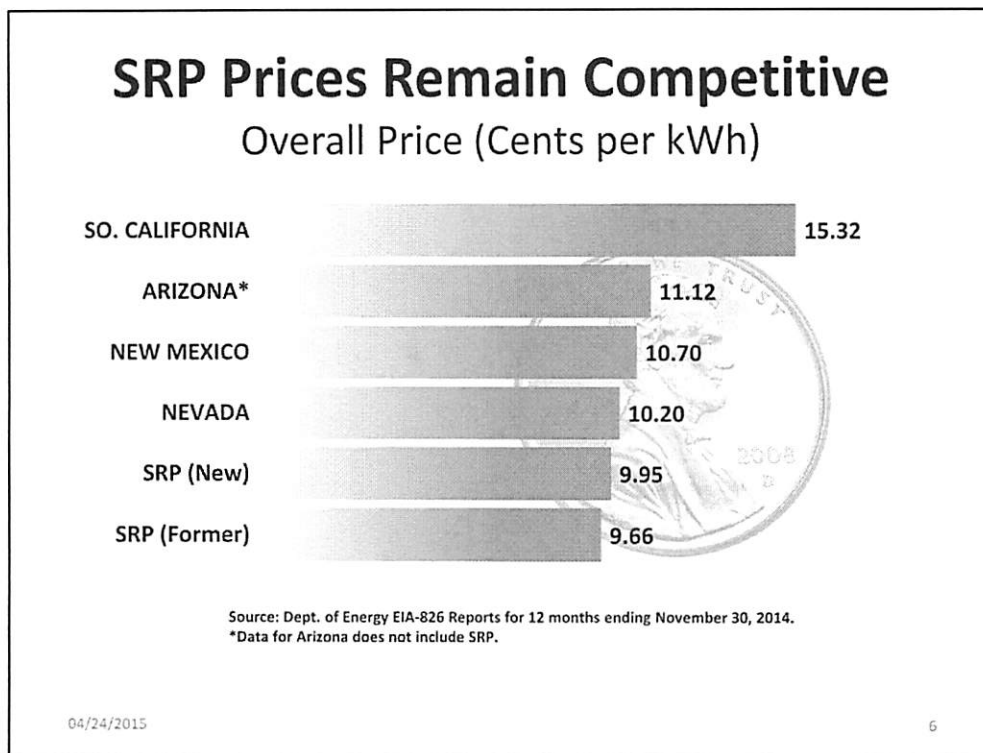


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1. Our goal is to meet customer electrical demands in an affordable, reliable manner. While we have taken many steps to cut and control costs, the costs associated with meeting our goal continue to increase.
2. In order to do that, we have to replace aging infrastructure such as older power poles and underground lines and we continue to modernize our grid.
3. Increase will also help to support current and future growth. Since the last price adjustment over 2 years ago, we have:
  1. completed a 150 mile high voltage transmission line addition,
  2. purchased a 625 MW gas-fired generating station,
  3. invested in the expansion and improvement of the distribution system, and
  4. Added environmental controls to our generating plants, in particular our Coronado Generation Station. These emission additions do not result in producing additional kwhs for sale and are an additional cost without associated new sales revenues.
4. In all, SRP has made approximately \$1.1 billion in capital investments since the last price adjustment.
5. The replacement of aging infrastructure and the addition of new facilities is more expensive than those that were installed years ago. This results in increases in our depreciation expense and a rise in our in lieu property taxes.
6. CNR was projected to be -\$46M, vs. \$66M w/ full implementation

Mesquite	\$371
Distribution including Meters (net of CIAC)	\$220
Southeast Valley Transmission	\$79
Other Transmission	\$66
CECP	\$54
LASER (and other Applic Related Upgrades)	\$53
Palo Verde Betterments	\$34
Facility Betterments	\$33
Coronado Betterments	\$27
	\$943



1. It's important to SRP to remain competitive in the southwest market when compared to other electric utilities and energy providers as well as keeping the increases in our prices below the inflation we see for other goods and services.
2. You can see that even with the recent price increase, SRP's prices remain as some of the lowest in the region.
3. And when adjusted for inflation, they continue to be at or below prices from 15 years ago. And in fact, are well below inflation adjusted prices 30 years ago.

SRP (EIA) includes E65 accounts ONLY as is reconciled to the blueback.

SRP (Proposed) = EIA data inflated by class average increase 3.9%.



## Residential Highlights

- Increase Monthly Service Charge to \$20 per month from \$17 to improve fixed cost recovery (\$18.50 in Summer 2015)
- Implement Customer Generation Price Plan (E-27)
- Implement an experimental price plan for customers with electric vehicles (E-29)
- Limited Income Discount / Economy Price Plan (EPP)
  - Increase Winter discount from \$17 to \$20/month
  - No changes to the current Summer and Summer Peak discount of \$21/month
  - Expand EPP qualifications: Customers who receive LIHEAP will be automatically enrolled in EPP

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1. I've mentioned the average overall increase of 3.9% for residential customers.
2. Part of that increase is made up of an increase in the Monthly Service Charges by \$3 to \$20 per month. (The MSC covers things that don't change, they're fixed costs such as customer service, meters, and billing.)
3. The Board also approved the implementation of a Customer Generation Price Plan. It is based on our most popular TOU plan meaning it has the same on/off peak hours. It is also designed to be revenue neutral to that TOU plan.
  - It has price components similar to our other Commercial Business Price Plans. We will talk about this more later in the presentation.
4. There is also a new experimental program for electric vehicle owners. It's also based on our popular TOU rate, but it has a super off-peak price from 11 p.m. to 5 a.m. year round,
  - The idea is that if a customer charges their vehicle during these times when our costs are lowest, we can pass those savings on and they can save a few dollars a month, depending on how long they charge and the type of vehicle
5. We also made some changes to the Limited Income Discount / Economy Price Plan. **Note this is our program for customers having a household income at or below 150% of federal poverty guidelines.**
  - We increased the winter discount to \$20/mo while leaving the summer and summer peak at \$21/mo.
  - We made enrollment in EPP easier. Those who qualify for LIHEAP or SRP Bill Assistance automatically are enrolled on this rider. So that expands the eligibility beyond the federal poverty guideline requirement. This could add over 3000 customers to this rider.
  - We continue to have other customer assistance programs such as the Low-Income weatherization, Low-Income Bill Assistance and credit counseling programs.



## Other Highlights

- Focus on fixed cost recovery
  - New on-peak demand charge for E-60s
  - Altered E-32 On/Sh-peak charge to on-peak to align with E-60s
- E-60s qualification based on gross usage (instead of net)
- Lighting equipment now \$500 upfront fee; increasing \$100 annually (to \$1,000)
- Net Metering Rider frozen to new customers; new commercial/industrial DG customers will use Buyback Rider

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- To better align prices with how SRP incurs its costs, an on-peak kW charge was added to the E-60 series. A portion of the Energy (Generation) and Transmission components were moved to this on-peak kW charge, since a vast majority of these particular fixed costs occur during the on-peak periods. This change also lowered the per kWh Energy (Generation) and Transmission components during these timeframes.

Although the cost to serve the smaller commercial class is not exactly the same as the large industrials, they still incur a majority of their fixed costs during the on-peak period. Thus, SRP altered the E-32 price plan's kW charge to align with the E-60 series.

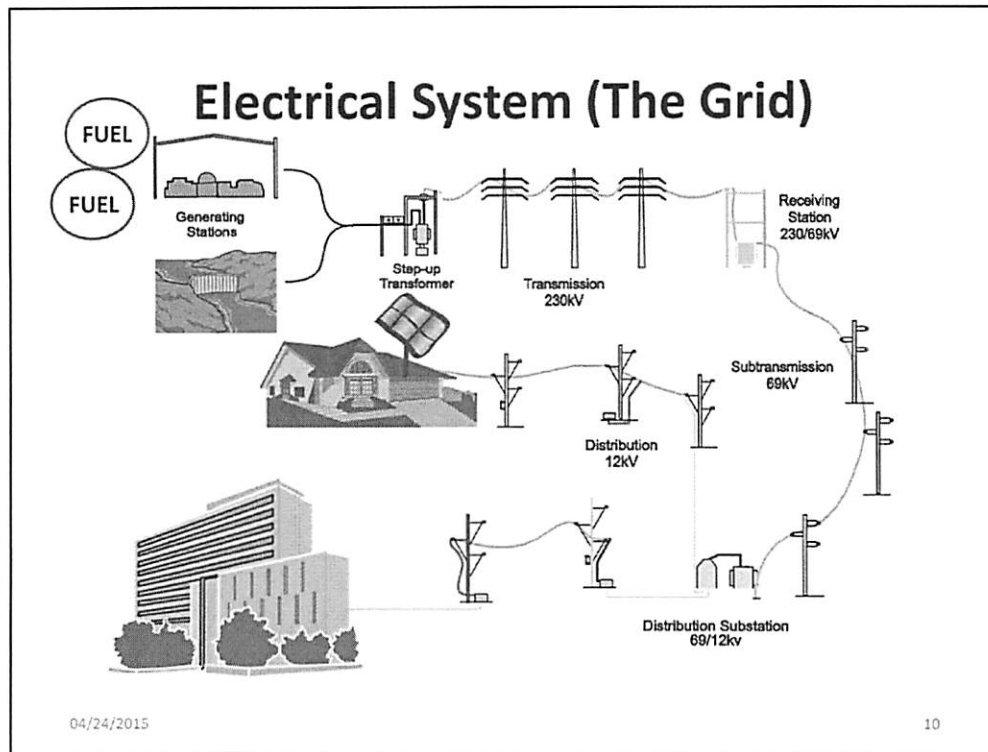
- E-60 customers that install their own power production facilities reduce their usage and can be disqualified from the E-60 price plan as the qualifications were previously written (E-60 requires monthly usage above 300,000 kWh). This price process, SRP made the adjustment to base the qualification on gross usage rather than net and to ensure customers will not be moved from the E-60 plan due to their choice in installing a power production facility.
- Previous lighting equipment costs were \$200 and not reflective of the true cost of the equipment. This process SRP increased the upfront fee to \$500 and will increase \$100 annually until it caps at \$1,000. This follows SRP's pricing philosophy of gradualism and inches closer to recovering the lighting equipment true cost.
- The New Metering Rider was an incentive for customers that gave them retail credit for all generation (except remaining excess at the end of fiscal year – which was credited at the wholesale/market rate). The Buyback Rider credits a customer's generation used on-site at the retail rate and any excess sent back to the grid is credited at an hourly wholesale/market rate. This process SRP froze the Net Metering Rider to new customers. Residential customers still receive net metering per the E-27 Customer Generation Price Plan. The original Net Metering Rider had a system cap of 300 kW, but to better reflect true value of customer generation this rider was froze and all new commercial/industrial customers will use the Buyback Rider.

## **Customer Generation**

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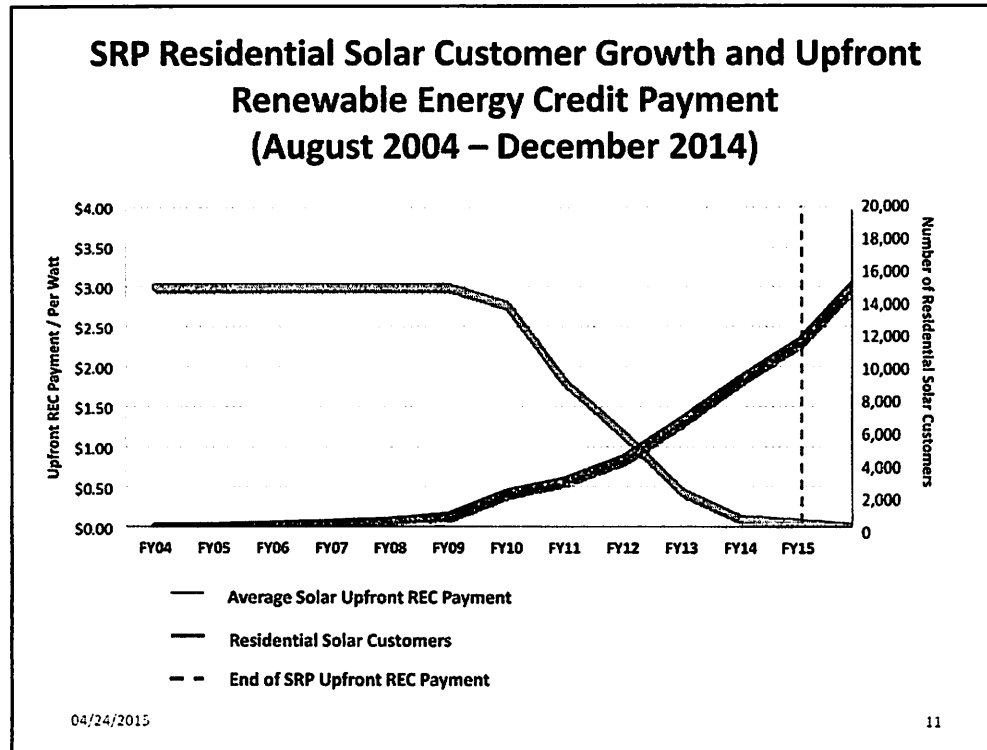
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1. Now we'll discuss the new Customer Generation Price Plan that addresses residential customers who, in the future, chooses to provide some or all of their own electrical requirements.

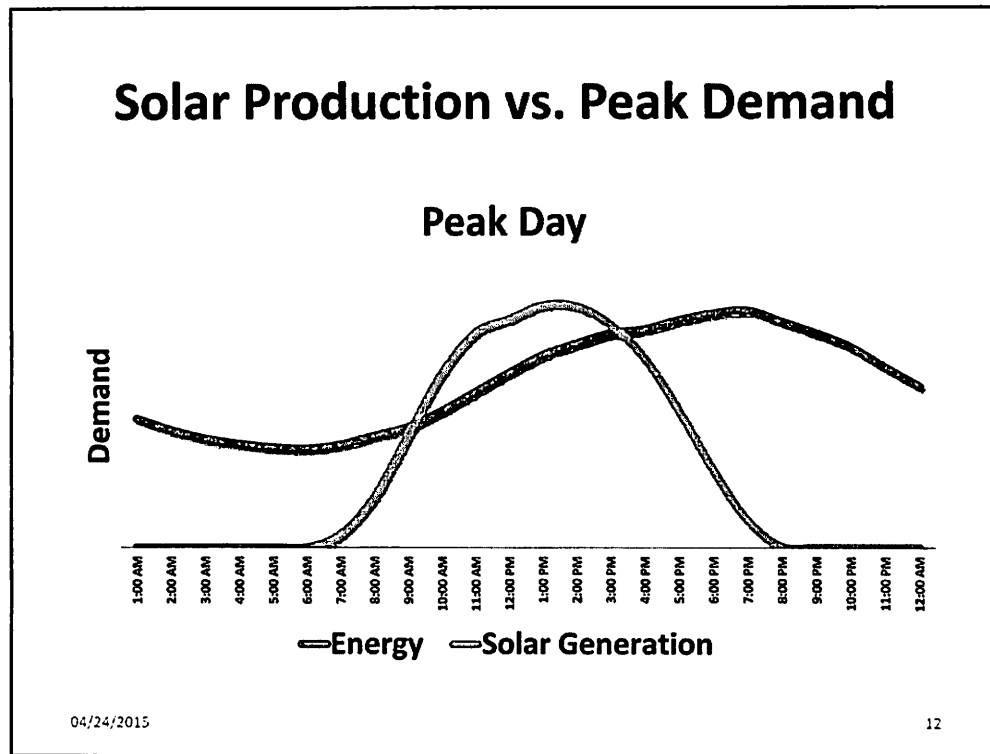


First I want to talk about the electric system, the “grid”, to lay the foundation for the rationale behind the proposal, because there’s a significant amount of equipment that goes into generating and delivering electricity.

1. Walk through grid
  - First you have your house or business, then there are the distribution lines, upstream from that is the transmission lines, then there are our generating units – Gas, Hydro, Coal, Renewable sources. Then we have the fuel that’s used to run those generating units.
2. Now, let’s put some distributed generation on top of the house, the technology of today happens to be rooftop solar. How does this picture change?
  - Doesn’t really change a lot, right? We do save on fuel (variable) costs though. That’s a win/win for SRP and the customer. However, all of the infrastructure still remains and is standing by to serve the customers in the event of an interruption in their solar production, and when and when the customer over generates and needs to sell some energy back to the utility for when solar isn’t generating.

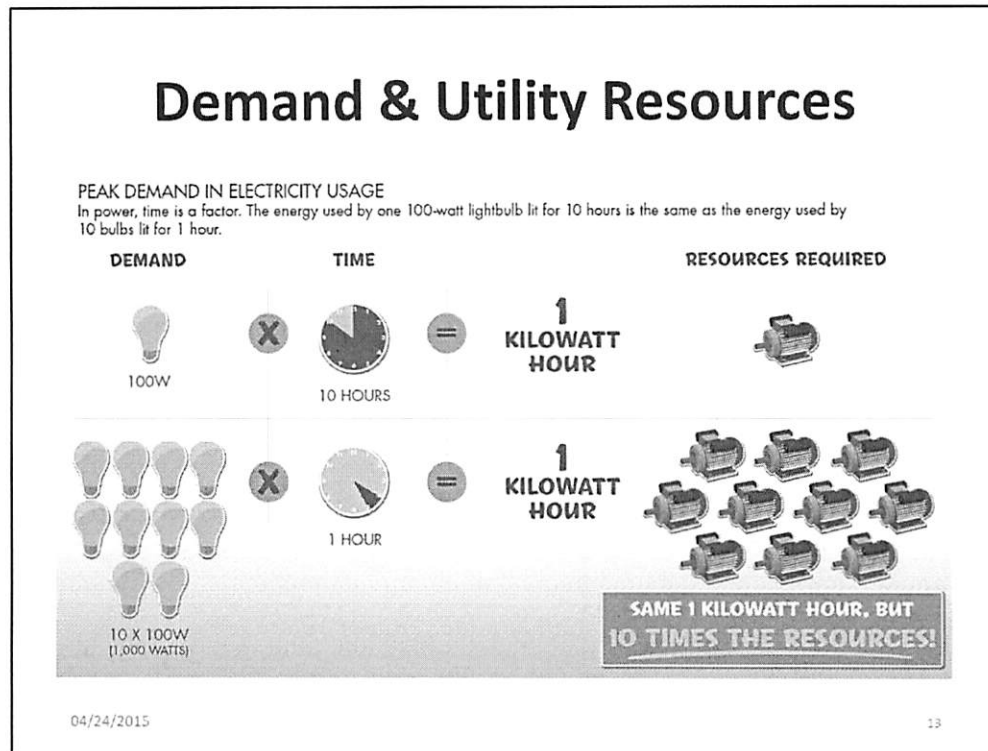


This shows that as REC payments that SRP provided to customers (incentives) were decreasing, the number of residential solar customers was increasing. We stopped providing REC payments in Sept of last year.



This graph is intended to clear up the common misconception that solar generation offsets a lot of our peak demand. In fact, rooftop solar production typically peaks hours before customer demand reaches its peak.

1. Solar peak is around 1 pm, customer peak is hours later in early evening
2. Build system for peak demand

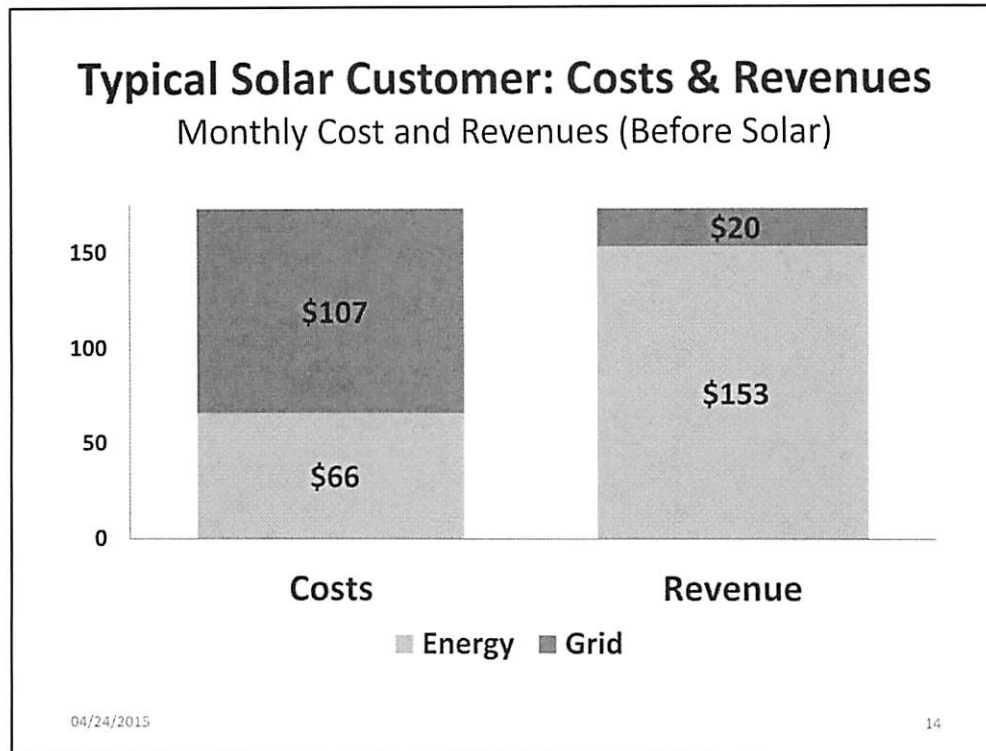


This slide is intended to help you understand demand and how a higher level of demand requires more resources to serve.

Let's take a 100 W light bulb. If that light bulb is burned for 10 hours, that equals 1 kilowatt hour. The resources require in this graphic is just one motor.

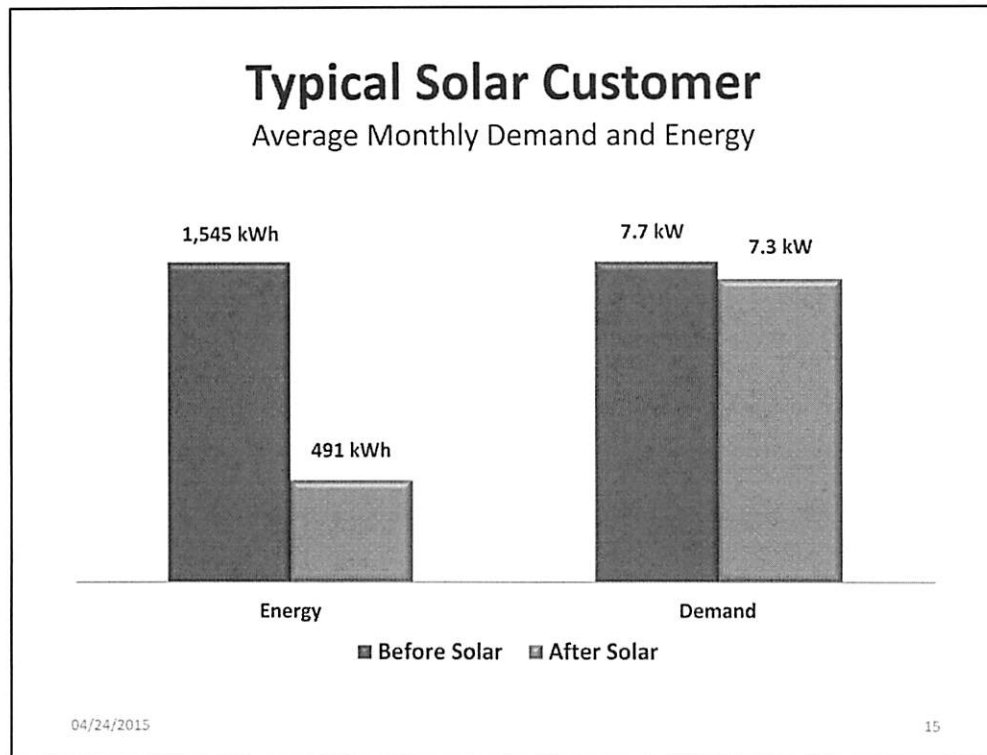
Now let's take 10 of those 100 W light bulbs, but only run them for 1 hour. It still equals 1 kilowatt hour – it's the same amount of energy in both instances. However, when you burn 10 at a time – that's a higher level of demand on our system. It takes 10 times the amount of resources to produce the same amount of energy.

We have to build our system for the bottom scenario here. The way we incur grid costs, is based on our system peak demand. It's somewhat like the way freeways are built. Freeways can't be built based on the average number of cars that use them, but rather the maximum number of cars that need to use them at any given time, in other words, rush hour. In fact, carpool lanes were developed to reduce peak demand during rush hour. If you carpool you have access to the restricted lane which is a win for you, and it's a win for everyone else because there is one less car on the road. Since we have to likewise build to meet peak demand, our pricing proposal for distributed generation customers includes a demand charge that similarly encourages customers to reduce their capacity requirements from SRP; we can then pass on the savings of doing so to those customers.



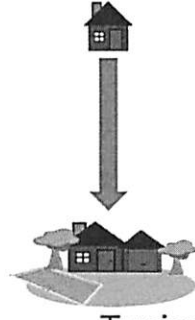
- This is an example of a typical solar customer, before they produce their own energy. The costs to SRP is about \$173. The grid costs are about 60% of the total (these are transmission costs, distribution costs, generation and customer related costs), 40% are energy or variable costs (which is basically fuel). On the revenue side, we collect only about 10% in the fixed component of the bill, the Monthly Service Charge, everything else is collected in the variable or per kWh charge.
- This has worked forever for ALL the utility industry...not just SRP.... because most everyone took all of their energy from the utility, so we recovered all of our costs because they were included in the per kWh charge.
- This rate structure works fine for full-requirements customers





Now we're going to start looking at why solar customers are different than other customers. This shows the difference between demand and energy for a customer before and after solar. Energy drops considerably with the installation of solar while demand is relatively consistent.

## Solar Customers are Different

Average Month			
		kWh	On-Peak kW
 Typical Solar Customer	Stratum 1	261	2.7
	Stratum 2	512	4.3
	Stratum 3	756	5.4
	Stratum 4	1,033	6.4
	Stratum 5	1,430	7.6
	Stratum 6	2,275	9.7
	Typical Solar Customer	491	7.3

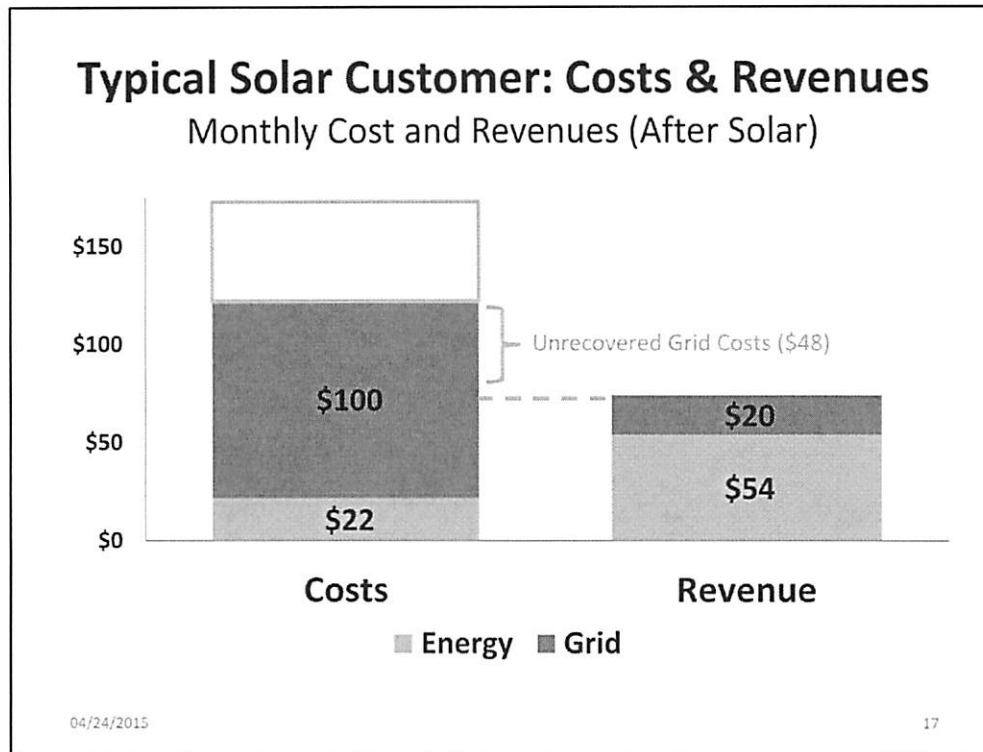
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Here is another way to see the differences. A stratum is basically how we categorize how much energy a customer uses in the summer months. Stratum 1 user is very low energy usage, stratum 6 being very high.

Roughly, solar customers use net energy (kWh) like a Stratum 2 customer and demand (kW) like a Stratum 5 customer...

Stratum	Avg. Monthly Summer kWh
1	0 - 400
2	401 - 850
3	851 - 1300
4	1301 - 1800
5	1801 - 2600
6	2600 +



So here is the problem with the old rate structure. This is that same typical customer after solar. You have a very slight reduction in grid costs, but there's a good reduction in the energy costs. The empty box here represents the avoided energy costs to SRP.

However, look at the customer's bill. This leaves us with a portion of the grid charges that are unrecovered. We aren't really losing this amount, but other customers are paying for this. If you take \$48 for every month, multiply that by 15,000 customer, that amounts to a lot of money we were passing to other non-solar customers.

1. Fixed cost vs. variable revenues
2. All utilities have done it this way for the history of the industry
3. Works w/ full-requirements customers

## Customer Generation Price Plan 200 Amp Service

	Monthly Service Charge	Distribution Charge	Demand/Grid Charge			Energy		Season
			1st Block (3kW)	2nd Block (7kW)	3rd Block (all else)	On-Peak	Off-Peak	
E-27	\$20.00	\$12.44	\$8.03	\$14.63	\$27.77	\$0.0486	\$0.0371	Summer
			\$9.59	\$17.82	\$34.19	\$0.0633	\$0.0423	Peak
			\$3.55	\$5.68	\$9.74	\$0.0430	\$0.0390	Winter

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We created a price plan that recovers more of the fixed costs that are still incurred by solar customers. There's now a distribution charge that is based on the amp size or service entrance section size of your house. This is for a 200 amp service. Then we've moved some of the pieces that were in the energy charge into demand charges. Note that there is an approximate 50% reduction in the energy charge over our E-26 price plan.

*If your on-peak demand is XX, then your total demand charge would be YY*

	1 kW	1 kW	3 kW	4 kW	5 kW	6 kW	7 kW	8 kW	9 kW	10 kW	Each add'l
Winter	\$3.55	\$7.10	\$10.65	\$16.33	\$22.01	\$27.69	\$33.37	\$39.05	\$44.73	\$50.41	+\$9.74/kW
Summer	\$8.03	\$16.06	\$24.09	\$38.72	\$53.35	\$67.98	\$82.61	\$97.24	\$111.87	\$126.50	+\$27.77/kW
Summer Peak	\$9.59	\$19.18	\$28.77	\$46.59	\$64.41	\$82.23	\$100.05	\$117.87	\$135.69	\$153.51	+\$34.19/kW



## Customer Generation Price Plan

### Typical Solar Customer – 200 Amp Service

#### Pre-Solar

	Monthly Service Charge	Distribution Charge	Demand/ Grid Charge	Energy	Average Monthly Bill
E-26	\$20.00	-	-	\$152.96	\$172.96
E-27	\$20.00	\$12.44	\$73.97	\$65.26	\$171.67

#### Post-Solar

	Monthly Service Charge	Distribution Charge	Demand/ Grid Charge	Energy	Average Monthly Bill
E-27	\$20.00	\$12.44	\$67.92	\$21.55	\$121.91

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First line, based on a typical solar customer's usage, shows our TOU E-26 bill.

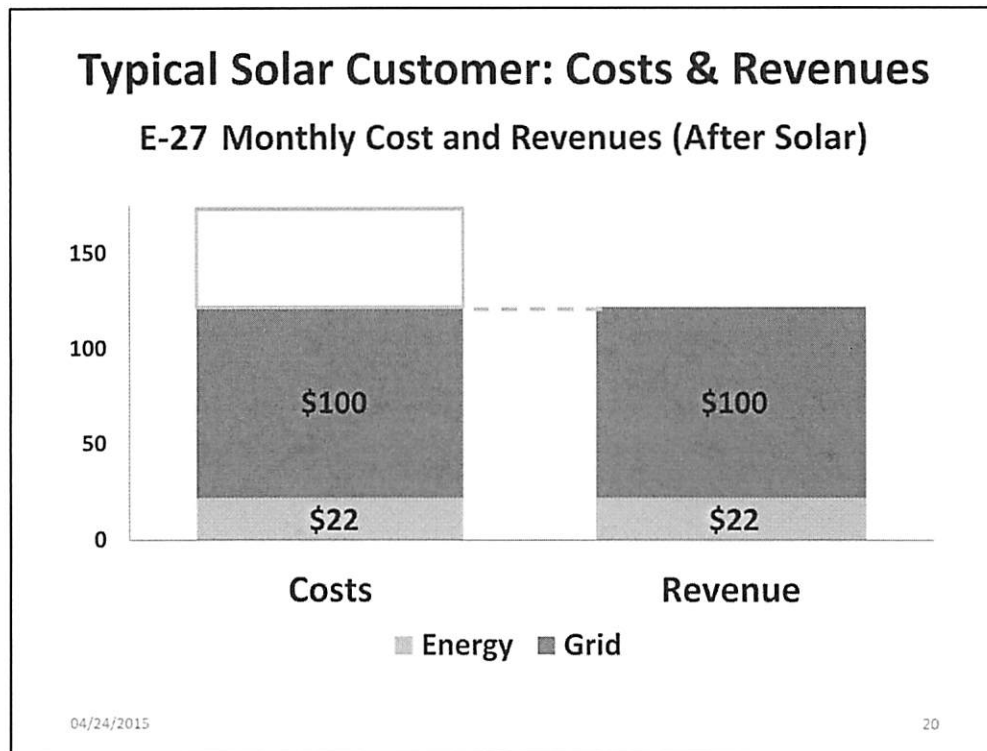
2<sup>nd</sup> is the same customer usage billed on the new price plan. While it's a few dollars lower than our TOU rate (our lowest price residential price plan), it's effectively revenue neutral to the TOU rate so that the average customer would be indifferent to being on either rate pre solar.

3<sup>rd</sup> line includes a 7.2kW solar array and results in a \$50/mo SRP bill savings. <address "solar tax" lie her or next slide>

- **Distribution Charge** - Based on the size of the house (Service Entrance Section size), rolled into the Monthly Service Charge.
- **Demand/Grid Charge** – Per kW charge. The demand charge measures the monthly maximum amount of energy a customer uses at any one time during peak hours. (use highway example)
- **Energy Charge** – Per kWh charge. Describes costs that vary with usage, mainly the fuel cost.

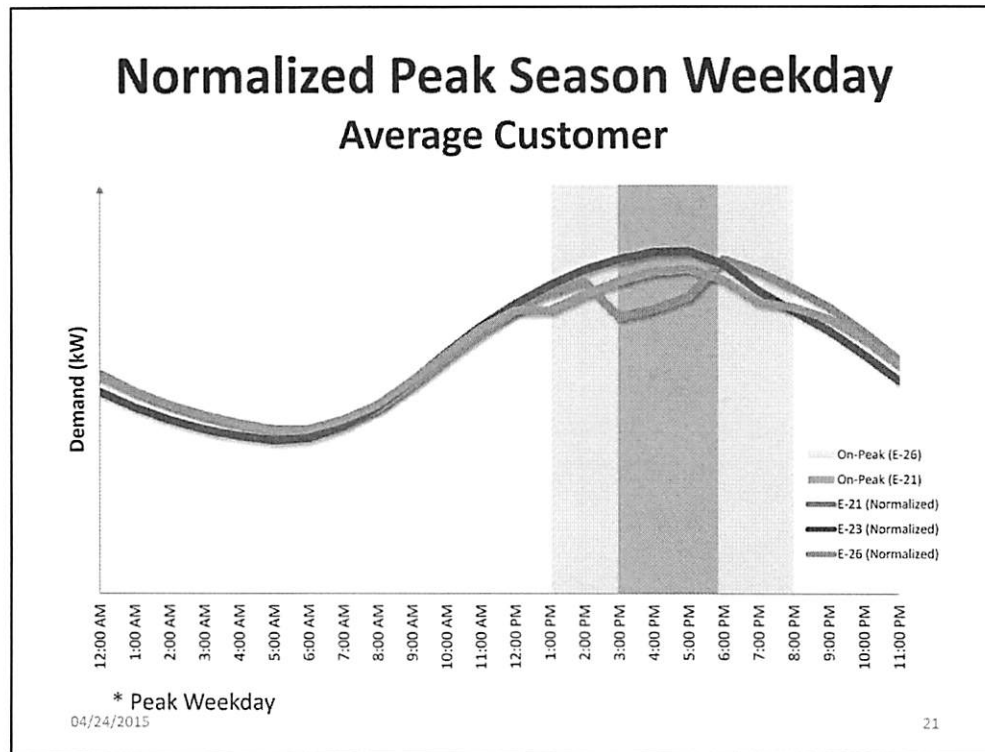
Based on a 7.2 kW system

1. Pre-solar bills are revenue neutral – Not a Solar Tax
2. Average solar on average solar customer on E-27 provides \$50/mo savings (\$600/yr)
  1. SRP bills still go down w/ solar, but only to the extent that SRP costs are reduced



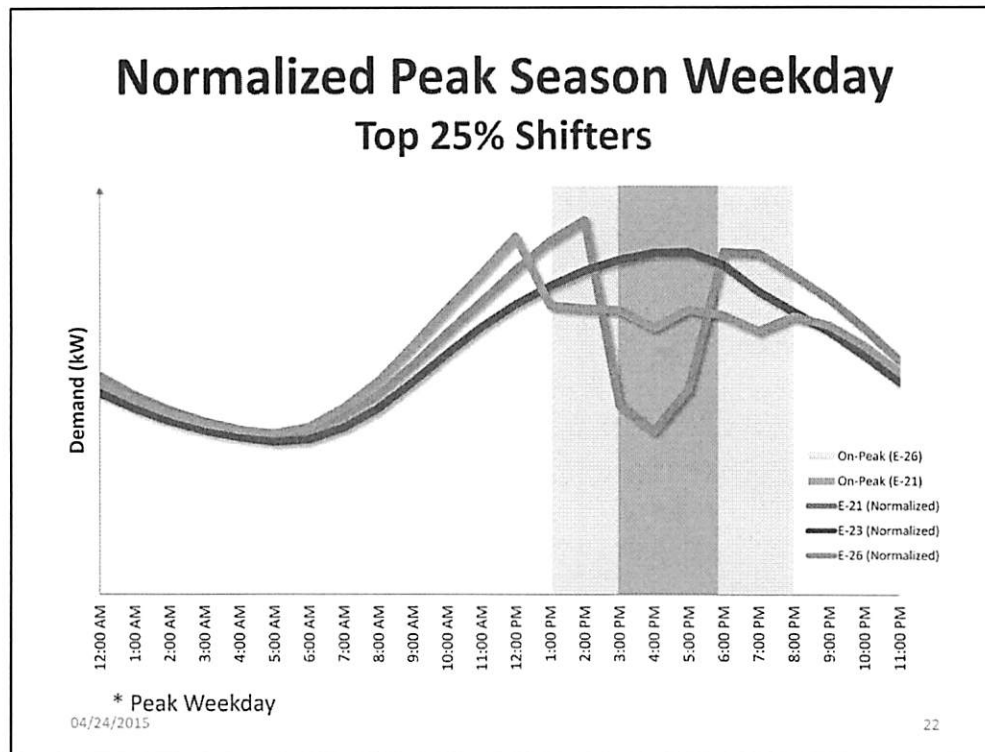
Here are the costs and revenues with the new E-27 rate structure. The energy savings is approximately a \$50 reduction....that is a win/win for everyone.

But you can see that now the solar customer is paying for their grid charges, just like non-solar customers are.

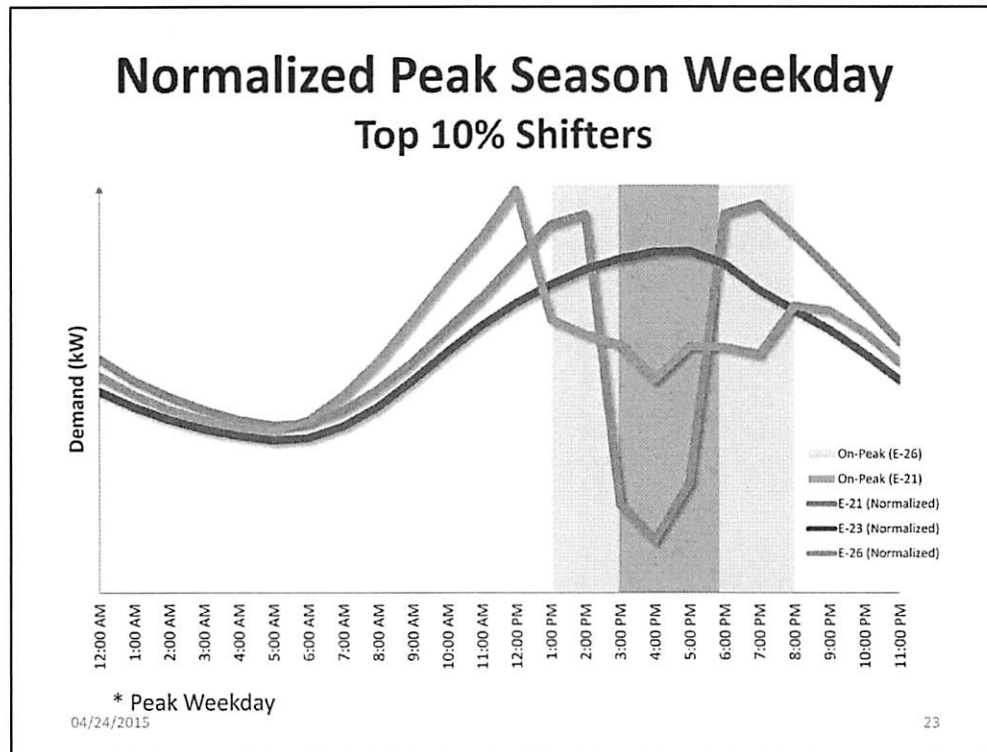


This shows how our customers respond to the price signals of our EZ3 and TOU rates. This is for a average customer, you can see how our E-26 and E-21 customers lower their demand during the peak times.





For the top 25% of customers that shift their usage, you can see how even more demand reduction during the peak times.



And then for the really aggressive customers, you can see a huge dip in the demand. This shows that customer DO respond to price signals, and we expect customers will be able to respond to the E-27 rate as well.

## **Customer Generation Price Plan**

- **Current distributed generation customers grandfathered**
  - 20 years from time of installation; or until March 31st, 2025, whichever is longer
  - Unlimited transfers to future homeowners
  - Net metering unchanged
- **New distributed generation customers**
  - Must take service under Customer Generation Price Plan
    - 30-minute demand
  - Includes net metering with monthly true up at retail price
- **Pilot program for 5,000 non-DG customers to participate on E-27**

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The Board modified management's original proposal to provide all customers with 20 years of grandfathering from the original date of installation.

## Implications

- Caps the residential cost shift (~\$163M over 20 years)
- Sends an accurate price signal
- Conforms with all Pricing Principles

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Caps the residential cost shift (~\$163M over 20 years)

Sends an accurate price signal

- As we saw with the previous slides, customers do change their behavior based on price signals

Conforms with all Pricing Principles

- Especially the Equity and Cost Relation principles